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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,642	05/02/2006	Tomas Jonsson	P18679-US1	3929

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EXAMINER	
DECKER, CASSANDRA L	

ART UNIT	PAPER NUMBER
2619	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/595,642	JONSSON ET AL.	
	Examiner	Art Unit	
	CASSANDRA DECKER	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *35-68* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *35-61 and 63-68* is/are rejected.

7)☒ Claim(s) *62* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 May 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2 May 2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detailed Action

In the present application, Claims 1-34 have been cancelled. Claims 35-68 are pending.

Claims – Objections

1. Claims 45, 56, and 62 are objected to because of the following informalities.

In Claim 45 line 2, "packed" should be corrected to ---packet---.

In Claim 56 line 1, "temporary" should be corrected to ---temporarily---.

In Claim 56 line 5, "said size" should be corrected to ---the size---.

In Claim 62 line 3, "burst being received" should be corrected to ---burst is received---.

Appropriate correction is required.

Claim Rejections – 35 USC 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 35-40, 42, 44, 46-50, 52, 54, 56-60, 63, 65-67 are rejected under 35 U.S.C. 102(b) as being anticipated by Leichtling et al. (US 7162418).

For Claim 35, Leichtling teaches user equipment in a communications system (see Figure 2), the user equipment comprising: means for receiving data packets

comprising bursty audio data over the communications system (see column 4 lines 10-25, column 3 lines 1-6: bursty); a size variable playout buffer configured for temporarily storing the data packets (see column 1 lines 66-67, column 2 lines 1-14, column 7 lines 40-42); and, means for adapting the playout buffer size based on the audio burst length (see column 2 lines 44-50).

For Claim 36, Leichtling teaches the user equipment further comprising: means for analyzing information associated with the packets (see Figure 3b item 3615); and means for determining the audio burst length based on the analyzed information (see column 9 lines 50-52, column 10 lines 4-15).

For Claims 37, 47, and 57, Leichtling teaches the user equipment wherein the analyzing means comprises means for determining a number of bits in the data packets from an audio burst start identifier to an audio burst stop identifier (see column 8 lines 27, 52-52: identifiers; column 10 lines 4-15 and column 9 lines 55-50: counting packets; column 12 lines 45-58: #bits/packet known), and the length determining means is configured for determining the audio burst length based on the determined number of bits (see column 10 lines 4-15: determining).

For Claims 38, 48, and 58, Leichtling teaches the user equipment wherein the analyzing means comprises means for calculating a number of data packets received by the receiving means from a first data packet comprising an audio burst start identifier to a second data packet comprising an audio burst stop identifier, and the length determining means is configured for determining the audio burst length based on the

calculated number of data packets (see column 8 lines 27 and 52-53: identifiers, column 9 lines 55-60 and column 10 lines 4-15: determining).

For Claims 39, 49, and 59, Leichtling teaches the user equipment wherein the analyzing means comprises means for determining a total releasing time comprising a time of releasing a data packet comprising an audio burst start identifier from the playout buffer to a time of releasing a data packet comprising an audio burst stop identifier from the playout buffer (see column 8 lines 27, 52-53: identifiers, column 9 lines 55-60: clock), and the length determining means is configured for determining the audio burst length based on the determined total releasing time (column 10 lines 4-15: determining).

For Claims 40, 50, and 60, Leichtling teaches the user equipment further comprising means for determining an average length of multiple audio bursts, wherein the size adapting means is configured for determining the playout buffer size based on the determined average length (see column 10 lines 4-15: average burst size).

For Claims 42, 52, and 63, Leichtling teaches the user equipment further comprising means for determining a number of audio bursts that are to be used by the average length determining means for the average length determination based on the audio burst length (see column 10 lines 4-15: an average length is calculated, therefore the number of bursts is necessarily determined).

For Claims 44, 54, and 65, Leichtling teaches the user equipment wherein the size adapting means is configured for setting the playout buffer size at a first size if the

audio burst length is according to a first length value and setting the playout buffer size at a second relatively larger size if the audio burst length is larger than the first length value (see column 10 lines 4-15: threshold adjustments).

For Claim 46, Leichtling teaches a buffer controller for an associated playout buffer that is configured for temporarily storing data packets comprising bursty audio data (see Abstract), the controller comprising: means for analyzing information associated with the data packets for determining the audio burst length (see Figure 3b item 3615, column 9 50-52, and column 10 lines 4-15); and means for adapting the size of the playout buffer based on the determined audio burst length (see column 2 lines 44-50).

For Claim 56, Leichtling teaches a method of controlling a playout buffer that temporary stores data packets comprising bursty audio data received over a communications system, the method comprising the steps of: determining the audio burst length (see column 9 lines 50-52, column 10 lines 4-15); and adapting the size of the playout buffer based on the determined audio burst length (see column 2 lines 44-50).

For Claim 66, Leichtling teaches a communications system, comprising: a transmitting node transmitting data packets comprising bursty audio data; and a receiving node adapted for receiving the transmitted data packets (see Figure 2: computers are nodes) and comprising: a size variable playout buffer configured for temporarily storing the packets (see column 1 lines 66-67, column 2 lines 1-14, and

column 7 lines 40-42); and means for adapting the playout buffer size based on the audio burst length (see column 2 lines 44-50).

For Claim 67, Leichtling teaches the system wherein the transmitting node comprises means for introducing, into data packets, an audio burst start identifier and an audio burst stop identifier (see column 8 lines 27 and 52-53: start and end flags), and the receiving node comprises means for determining the audio burst length based on the audio burst start identifier and the audio burst stop identifier (see column 9 lines 55-60).

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 41, 51, and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leichtling et al. (US 7162418) in view of Alles et al. (US 5537395).

For Claims 41, 51, and 61, Leichtling does not teach the user equipment wherein the average length determining means is configured for determining a weighted average length of the multiple audio bursts. However, Alles teaches the user equipment wherein the average length determining means is configured for determining a weighted average length of the multiple audio bursts (see column 5 lines 27-45).

Thus it would have been obvious to a person of ordinary skill in the art at the time of invention to use weighted averages as calculated in the method of Alles for determining the playout buffer size as in Leichtling. The motivation for doing so would be to use a measure of broader applicability to the determination of playout buffer size than a mere arithmetic mean and thereby achieve an optimal buffer size.

8. Claims 43, 53, and 64 are rejected under 35 U.S.C. 103(a) as being obvious over Leichtling et al. (US 7162418) in view of Ohlsson et al. (US 6452950).

For Claims 43, 53, and 64, Leichtling does not teach the user equipment further comprising means for estimating a variation of transmission delay for the data packets from a transmitting node, wherein the size adapting means is configured for adapting the playout buffer size based on the estimated delay variation. However, Ohlsson teaches the user equipment further comprising means for estimating a variation of transmission delay for the data packets from a transmitting node, wherein the size adapting means is configured for adapting the playout buffer size based on the estimated delay variation (see Abstract).

Thus it would have been obvious to a person of ordinary skill in the art at the time of invention to use an estimate of delay variation as in Ohlsson rather than a measurement of delay variation as in Leichtling to adjust playout buffer size. The motivation for doing so would be to simplify the processing performed on packets at arrival to the system and thereby speed processing.

9. Claims 45, 55, and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leichtling et al. (US 7162418) in view of Harris et al. (US 6665283).

For Claims 45, 55, and 68, Leichtling teaches size adapting means configured in a client (see column 2 lines 44-50), but does not teach the user equipment further comprising a client configured for supporting Push to talk over Cellular (PoC) services in a packed based radio communications system, and the playout buffer configured in the PoC client. However, Harris teaches the user equipment further comprising a client configured for supporting Push to talk over Cellular (PoC) services in a packed based

radio communications system, and the playout buffer configured in the PoC client (see column 4 lines 31-34: cellular; column 5 lines 63-65: push to talk; column 4 lines 45-50: packet based communications; and column 10 lines 6-10: playout buffer).

Thus it would have been obvious to a person of ordinary skill in the art at the time of invention to use the buffer size adapting means according to Leichtling in the PoC client according to Harris. The motivation for doing so would be to overcome the delays resulting from the different buffer sizes in the infrastructure and client as described in Harris.

Allowable subject matter

10. Claim 62 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chan et al. (US 6826177) teach a system for playout buffer scheduling based on delays. Baker (US 6580694) teaches a system for establishing optimal latency by determining whether delays are network delays or transmit delays. Huart et al. (US 7099820) teach a method for concealing adjustments to a jitter buffer. Florencio et al. (US 2005/0058145) teach a system of adjusting buffer size based on properties of buffer contents. Lakaniemi et al. (US 7319703) teach a method for

reducing delays by synchronizing with speech bursts. Kurittu et al. (US 2004-0120309) teach a method for adjusting buffer size based on delays.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CASSANDRA DECKER whose telephone number is (571)270-3946. The examiner can normally be reached on Monday through Friday, 7:30 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayanti Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Cd 7/10/2008

/STEVEN HD NGUYEN/
Acting SPE of Art Unit 2619/2600